IMPORTANT BIRD AND BIODIVERSITY AREAS IN INDIA

Priority sites for Conservation

Revised and updated 2nd Edition Vol. I

BirdLife INTERNATIONAL

BNHS INDIA CONSERVING NATURE SINCE 1883

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Second Edition: Revised and Updated
Volume I

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With major sponsorship from

Pavillion Foundation, Singapore

Recommended citation:
Rahmani, A.R., Islam, M.Z. and Kasambe, R.M. (2016) Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated). Bombay Natural History Society, Indian Bird Conservation Network, Royal Society for the Protection of Birds and BirdLife International (U.K.). Pp. 1992 + xii

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Bombay Natural History Society in India is registered under Bombay Public Trust Act 1950: F244 (Bom) dated 06th July 1953.

ISBN: 978-93-84678-02-9

Cover Photographs: Design and collage by Gopi Naidu conceptualized by IBA Team.
First published: 2004 by IBCN: Bombay Natural History Society.

Second Revised Edition: 2016.

Printed by Akshata Arts Pvt Ltd. 22, A to Z Industrial Estate, G. Kadam Marg, Lower Parel, Mumbai 400 013. Published by the Bombay Natural History Society, Hornbill House, Shaheed Bhagat Singh Road, Mumbai 400 001.

Designed: V. Gopi Naidu.

Available from IBCN and BNHS website as given above.

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HARYANA

Haryana state, though under intensive agriculture, still has many important wetlands such as Sultanpur National Park, Bhindawas Wildlife Sanctuary, and Dighal

Haryana (27º 39'–30º 55' N, 74º 27'–77º 36' E), an agriculturally rich state in northwest India covering an area of 4.42 million ha which is 1.3% of the country's geographical area, is divided into two natural zones, the Shivalik and Aravalli hills, and the Indo-Gangetic plains. The Yamuna and Ghaggar rivers are its lifelines. Haryana is bounded by Uttar Pradesh in the east, Punjab in the west, Himachal Pradesh in the north, and Rajasthan in the south. Haryana adjoins Delhi on three sides.

The modern state of Haryana came into being on November 1, 1966 as a result of the reorganization of the old Punjab State into three separate entities, Punjab, Haryana, and Himachal Pradesh. The Hindi-speaking areas were included in the state of Haryana. There are 19 districts.

The population of the state increased from 21.08 million in 2001 to 25.35 million in 2011, that is 2.09% of the country's population (2011 census). The rural population is 65.13% and the urban population 34.87%. The average population density is 573 persons per sq. km. Haryana is the first state to have electrified all its villages. About 11% of the soldiers in the Indian Army hail from Haryana (Mathew 2003).

Rainfall is meagre, particularly in the districts of Mahendragarh and Hissar. It varies from 213 mm in the southwest to 1,400 mm in the northeast. The annual mean temperature varies between 22.5 ºC and 25 ºC. The southwest part of Haryana is dry, sandy, and barren.

Vegetation

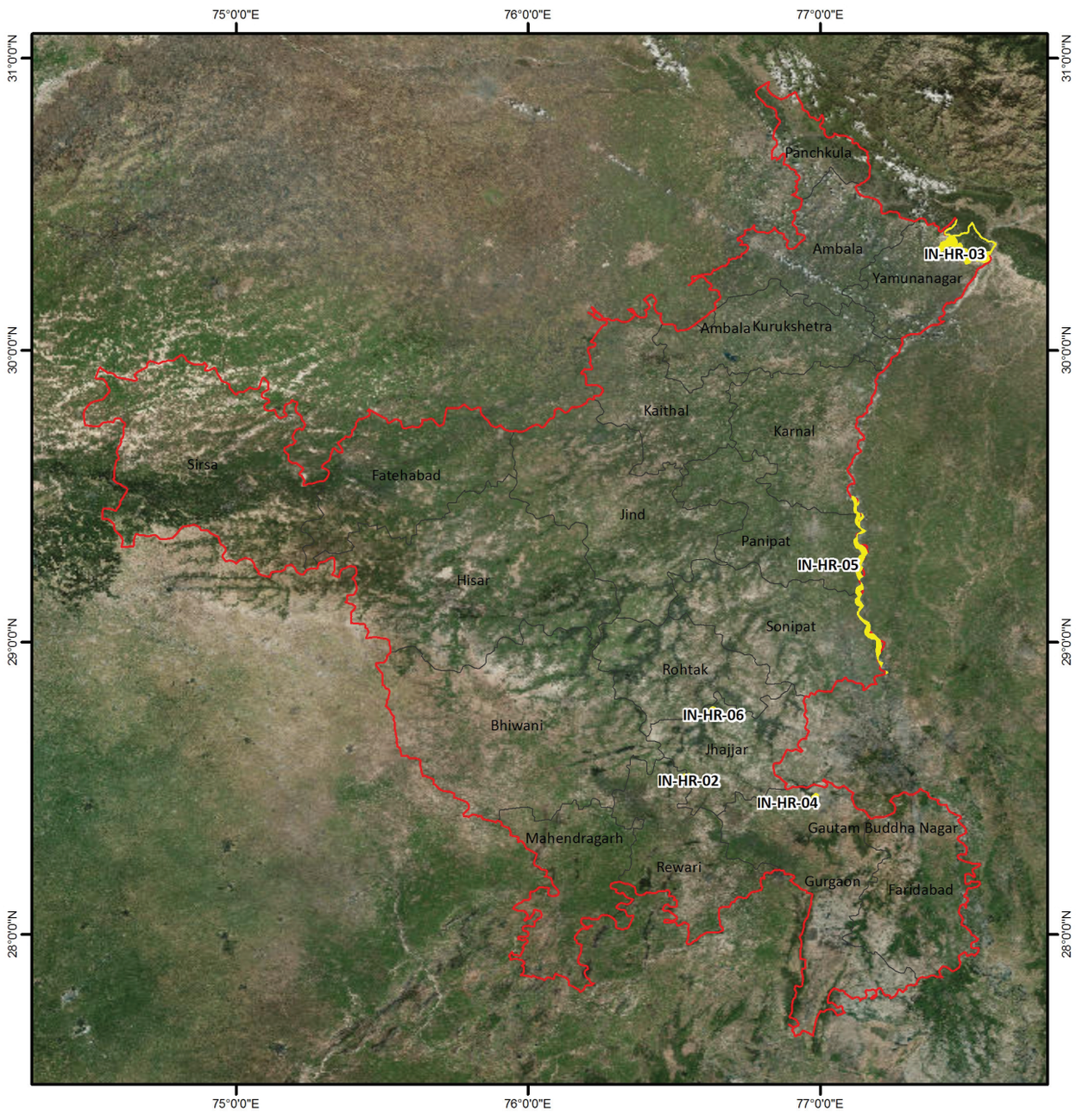
The state is under intensive cultivation and therefore it is deficient in natural forests. According to the Forest Survey of India report of 2013, the recorded forest area is 1,559 sq. km which is 3.5% of the geographical area of the state. By legal classification, reserve forest constitutes 16%, protected forest 74.2%, and unclassed forest 9.8% of the recorded forest area. The forests are mainly distributed in the northeastern and southeastern districts. There are three forest types: Tropical Dry Deciduous in the eastern part, Tropical Moist Deciduous in the Shivalik region, and Tropical Thorn Forest in the western part of the state. Dense forest accounts for 250 sq. km and open forest 890 sq. km (Ministry of Environment and Forests 2013).

According to the Forest Survey of India report of 2013, there is decline in forest cover, mainly outside recorded forests, the major reasons being felling in agroforestry areas and developmental activities such as construction and widening of roads, and residential complexes in forest areas (Ministry of Environment and Forests 2013).

IBAs AND PROTECTED AREAS

One national park and nine wildlife sanctuaries in Haryana cover an area of 27,975 ha which constitutes 0.63% of the geographical area (Rodgers *et al*. 2000). Only five of the protected areas qualify according to IBA criteria.

Important Bird Areas in Haryana



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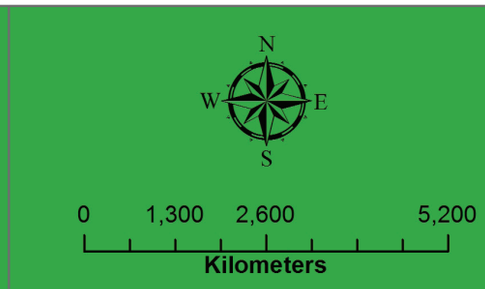

IBAs of Haryana

IBA site codes	IBA site names	IBA criteria
IN-HR-01	Basai Wetlands*	A1, A4i, A4iii
IN-HR-02	Bhindawas Wildlife Sanctuary	A1, A4i, A4iii
IN-HR-03	Kalesar Wildlife Sanctuary	A1, A3
IN-HR-04	Sultanpur National Park	A1, A4i, A4iii
IN-HR-05	Wetlands of Yamuna River*	A4iii
IN-HR-06	Dighal Wetland	A1, A4iii

* IBA in danger

While three of the protected areas have survived during the last ten years as there has been no land use change, Basai Wetlands IBA has deteriorated due to development activities. As the land belongs to Gurgaon Development Authority, most of it is already planned to be converted into housing colonies or other human use. Basai is one of the IBAs in Danger. Similarly, Wetlands of Yamuna River IBA is under tremendous pressure of human activities and there is little chance of its long-term survival. It is also considered to be an IBA in Danger. We are including it in this book as some areas are still good, and if the current land use change is stopped, which seems unlikely, it may still qualify for IBA criteria. Dighal Wetland in Jhajjar district has been identified as a new IBA where 263 bird species, including passage migrants, winter and summer migrants, and resident birds, have been identified.

AVIFAUNA

Basai, Sultanpur, Bhindawas, and the wetlands of the Yamuna harbour rich avifauna, where more than 200 species have been recorded by Bill Harvey, Nikhil Devasar, and other members of the Delhi Bird Club. Many birds were also recorded during the BNHS bird ringing camp in 2001. Some of the Vulnerable species found in Haryana are: Marbled Duck *Marmaronetta angustirostris*, Sarus Crane *Grus antigone*, Eastern Imperial Eagle *Aquila heliaca*, Greater Spotted Eagle *Clanga clanga*, and Lesser Spotted Eagle *Clanga hastata*. In Bhindawas, 265 species of birds were recorded (Suresh Sharma & Bill Harvey, *pers. comm*. 2003). In good years, the lake has attracted more than 30,000 birds on passage and in winter. Wildfowl are particularly significant, and include, in recent years, large flocks of Bar-headed Goose *Anser indicus* (up to 830) and Greylag Goose *A. anser* (up to 1,320).

ASAD R. RAHMANI

The future of Basai IBA near Gurgaon is uncertain due to land use changes. The Basai marshes are not legally protected

List of Threatened birds with IBA site codes

CRITICALLY ENDANGERED	
Baer's Pochard *Aythya baeri*	IN-HR-02
White-rumped Vulture *Gyps bengalensis*	IN-HR-01, 02, 03, 04, 06
Long-billed Vulture *Gyps indicus*	IN-HR-02, 04, 06
Slender-billed Vulture *Gyps tenuirostris*	IN-HR-03
Red-headed Vulture *Sarcogyps calvus*	IN-HR-01, 02, 03, 04
ENDANGERED	
Greater Adjutant *Leptoptilos dubius*	IN-HR-02
Egyptian Vulture *Neophron percnopterus*	IN-HR-06
Black-bellied Tern *Sterna acuticauda*	IN-HR-04
VULNERABLE	
Spot-billed Pelican *Pelecanus philippensis*	IN-HR-02, 04
Lesser Adjutant *Leptoptilos javanicus*	IN-HR-02, 04
Lesser White-fronted Goose *Anser erythropus*	IN-HR-02
Marbled Teal *Marmaronetta angustirostris*	IN-HR-01, 06
Pallas's Fish-eagle *Haliaeetus leucoryphus*	IN-HR-02, 03
Greater Spotted Eagle *Clanga clanga*	IN-HR-01, 02, 04,06
Indian Spotted Eagle *Clanga hastata*	IN-HR-06
Eastern Imperial Eagle *Aquila heliaca*	IN-HR-01, 04
Sarus Crane *Grus antigone*	IN-HR-01, 02, 04, 06
White-browed Bushchat *Saxicola macrorhynchus*	IN-HR-02, 04
Finn's Weaver *Ploceus megarhynchus*	IN-HR-04
NEAR THREATENED	
Oriental Darter *Anhinga melanogaster*	IN-HR-01, 02, 04,06
Painted Stork *Mycteria leucocephala*	IN-HR-01, 02, 03, 04, 06
Black-necked Stork *Ephippiorhynchus asiaticus*	IN-HR-01, 02, 04, 06
Black-headed Ibis *Threskiornis melanocephalus*	IN-HR-01, 02, 04, 06
Lesser Flamingo *Phoeniconaias minor*	IN-HR-04
Ferruginous Duck *Aythya nyroca*	IN-HR-01, 02, 04
Lesser Fish-eagle *Ichthyophaga humilis*	IN-HR-04
Red-headed Falcon *Falco chicquera*	IN-HR-06
Pallid Harrier *Circus macrourus*	IN-HR-01, 02, 03, 04, 06
Asian Dowitcher *Limnodromus semipalmatus*	IN-HR-01, 02
Black-tailed Godwit *Limosa limosa*	IN-HR-01, 02, 04, 06
Eurasian Curlew *Numenius arquata*	IN-HR-01, 02, 04, 06
Alexandrine Parakeet *Psittacula eupatria*	IN-HR-01, 02, 03, 04, 06
Eurasian Roller *Coracias garrulus*	IN-HR-01, 02, 03, 04, 06

In Sultanpur National Park, which is a very important wintering ground for the waterfowl, 323 species of birds have been recorded (Bill Harvey *pers. comm.* 2003). In years of adequate rainfall, it has supported over 20,000 individuals of migratory birds, but in the dry periods of 2000–2003 the total never exceeded 3,000. Sultanpur also has a significant waterbird breeding colony, including the Painted Stork *Mycteria leucocephala* and Oriental Darter *Anhinga melanogaster*. The adjoining dry flats are important wintering grounds for several lark and wheatear species, while there are breeding populations of Indian Courser *Cursorius coromandelicus*, Yellow-wattled Lapwing *Vanellus malabaricus*, and Chestnut-bellied Sandgrouse *Pterocles exustus*. Unusual visitors have been White-browed Bushchat *Saxicola macrorhynchus* (2001), Cream-coloured

OTTO PFISTER

Bill Harvey was the first to report the sighting of White-browed Bushchat *Saxicola macrorhynchus* in 2001, from a dry, flat area south of Sultanpur National Park. Since then many people have seen this species in Haryana

AMIT MISHRA

In 2010, the Indian Spotted Eagle *Clanga hastata* was found nesting on a Eucalyptus tree on the bank of an irrigation canal in Sonepat district. This is the first nesting record from the state

Courser *Cursorius cursor* (2002), and the Lesser Kestrel *Falco naumanni* (2003) (N. Devasar, *pers. comm.* 2003). Threatened Bird for which Haryana is important.

White-browed Bushchat or Stoliczka's Bushchat
Saxicola macrorhynchus
Vulnerable

Harvey (2001) was the first to report the sighting of this species from the dry flats south of Sultanpur National Park. This was the first record for Haryana in over 80 years. Later, a total of three individuals were spotted in the same area. Sharma & Sangwan (2005) reported two birds from the uncultivated and unirrigated area near Berwala in Hissar district, Haryana. This semi-arid desert specialist is poorly known, but is thought to have a small, declining population as a result of agricultural intensification and encroachment. Hence it is listed as Vulnerable (BirdLife International 2014).

Indian Spotted Eagle *Clanga hastata*
Vulnerable

BirdLife International (2014) describes this species as widespread but poorly known and thought to have a small, declining population. It therefore qualifies as Vulnerable. Sharma & Chanda (2010) reported nesting of Indian Spotted Eagle on a Eucalyptus tree on the bank of an irrigation canal in Sonepat. This was the first nesting record from Haryana.

NEW RECORD FOR HARYANA

Long-billed Dowitcher *Limnodromus scolopaceus*

While birdwatching at Sultanpur National Park, Sharma *et al.* (2013) spotted a wader and initially identified it as Asian Dowitcher *Limnodromus semipalmatus*. But after observing the morphological characters and comparing the photograph with literature, they concluded that it was a Long-billed Dowitcher. This was the sixth record of this bird for the Subcontinent and first for the state.

THREATS AND CONSERVATION ISSUES

Most IBAs of Haryana fall under Biome 11 (Indo-Gangetic plains) and support large congregations of birds, especially in winter. Basai, Sultanpur, Bhindawas, and Wetlands of Yamuna River qualify for the A4iii criterion (bird congregations). Kalesar Wildlife Sanctuary, on the other hand, was identified as an IBA mainly on the basis of biome criteria. The main problems of wetland sites are poaching, sewage disposal, urbanization, closure of water

sources, and overgrazing by livestock. Sometimes, lack of water is also a problem for these IBAs.

In Basai, if the breach in the water channel is stopped and the Haryana Urban Development Authority (HUDA) extend their housing project west of the railway track, it would constitute a major threat to the wetlands. Shooting and trapping at night has been a problem in winter. Although it comes under the jurisdiction of Sultanpur National Park, the site is not under any formal protection.

In Bhindawas Wildlife Sanctuary, the major problem in recent years has been the unreliability of water supply due to the failure of the monsoon and excessive use for agriculture. The wetland was infested with Water Hyacinth *Eichhornia crassipes*, as a result of which the habitat was degrading rapidly, but dry conditions in 2002 enabled a major clearance of this prolific weed. The surrounding area is heavily cultivated, grazed, and for the most part degraded. This results in siltation and pollution by pesticides from the agricultural runoff.

Near Kalesar, small villages are located along the southwestern border of the sanctuary. The primary sources of livelihood of the people in these villages are animal husbandry and agriculture. Firewood collection is a problem. Invasion by the exotic weed *Lantana camara* has occurred along the fire lines and could spread to the interior of the forest.

The climate and the soil in the environs of Sultanpur NP are not conducive to the existence of permanent waterbodies. In the recent years of low rainfall, only a few pools were found after the monsoon and the jheel is predominantly dry. Pumping ground water has been undertaken since 2001 to maintain some waterfowl habitat during the winter. However, because of urbanization and industrial development in the surrounding areas, water, an increasingly scarce commodity, has been diverted to the rapidly growing urban areas around the national park.

While the core area of the lake (143 ha) is under the jurisdiction of the Haryana Forest Department, the buffer zone is under *gram panchayat* (village council) control. These areas are cultivated, heavily grazed, and for the most part, heavily degraded. The buffer zone has 17 villages. Grazing and collection of aquatic vegetation for thatching and fodder is rampant. Tourist activity causes a high level of disturbance. Sand mining for the nearby brick and lime industries is also a major concern.

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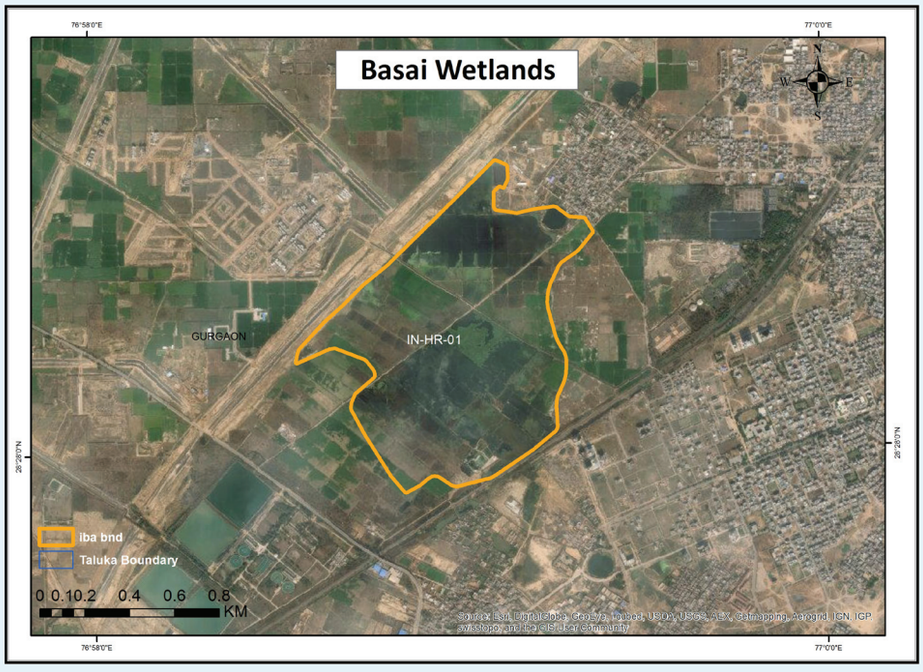
BASAI WETLANDS

IBA Site Code	:	IN-HR-01	**Area**	:	100 ha
State	:	Haryana	**Altitude**	:	216–219 msl
District	:	Gurgaon	**Rainfall**	:	800 mm
Coordinates	:	28º 28' 60" N, 76º 58' 60" E	**Temperature**	:	7 ºC to 43 ºC
			Biogeographic Zone	:	Semi-arid
Ownership	:	Private, Village	**Habitats**	:	Freshwater Swamp

IBA CRITERIA: A1 (Threatened species), A4i (≥1% of biogeographical population), A4iii (≥ 20,000 waterbirds)

PROTECTION STATUS: Not officially protected, IBA in Danger.



GENERAL DESCRIPTION

Basai wetlands are located close to Delhi, about 2 km west of Gurgaon and 8 km east of Sultanpur National Park, in Haryana state. One of the outstanding features of the site is the relative tameness of the birds that utilize it.

The main source of water is a breached water channel bringing waste water and supposedly treated sewage from the Gurgaon Water and Sewage Works. This has created a permanent shallow wetland of about 250 acres, comprising open water, Water Hyacinth *Eichhornia crassipes*, and *Typha* reedbeds. Rain water and the channeling of water by farmers to irrigate their crops (particularly rice) regularly floods an area of up to 1 sq. km in the monsoon. *Paspalum* sp. grows extensively, and is cut for fodder by villagers. This provides an ideal grazing sward for a significant flock of wintering Bar-headed Geese *Anser indicus*. There are several brackish fallow fields and some low thorn scrub. Along the railway line, borrow pits have formed small ponds and reedbeds. Gurgaon Water and Sewage Works have recently constructed a deep-water reservoir close to Ashram on the Sultanpur road, which now attracts diving duck, cormorants, and grebes.

The core area is predominantly covered with Water Hyacinth, large *Typha* reedbeds, and some fields of *Paspalum* grass. Adjoining it are areas of poor agricultural land, given over seasonally to rice, wheat, and mustard. There is also infertile fallow land with *Salicornia* and *Acacia* scrub, particularly in the borrow pits. There are very few trees, but they include fruiting figs near Ashram.

Members of the Delhi Bird Club regularly monitor the bird population of this IBA. Bird ringing camps are organized twice a year with the collaboration of BNHS.

AVIFAUNA

The Basai wetlands harbour rich avifauna; no less than 239 species have been recorded since February 2001. In five days in September 2001, 154 species of birds were recorded during a BNHS birdringing camp. Marbled Duck *Marmaronetta angustirostris*, Sarus Crane *Grus antigone*, Imperial Eagle *Aquila heliaca*, Greater Spotted Eagle *Clanga clanga*, and Indian Spotted Eagle *Clanga hastata*, are Threatened species that have been recorded at the site. Near Threatened species include the Black-necked Stork *Ephippiorhynchus asiaticus*, Painted Stork *Mycteria leucocephala*, Black-headed Ibis or Oriental White Ibis *Threskiornis melanocephalus*, Asian Dowitcher *Limnodromus semipalmatus,* and Pallid Harrier *Circus macrourus*. A Black-necked Stork pair breeds in the vicinity of Basai. It was seen with a juvenile in 2001 (B. Harvey, *pers. comm*. 2002). Ruddy-breasted Crake *Porzana fusca*, Water Rail *Rallus aquaticus*, Moustached Warbler *Acrocephalus melanopogon*, Smoky Warbler *Phylloscopus fuligiventer*, Common Grasshopper-warbler *Locustella naevia*, Water Pipit *Anthus spinoletta*, Grey-headed Lapwing *Vanellus cinereus*, Watercock *Gallicrex cinerea*, Common Crane *Grus grus* and Greater Flamingo *Phoenicopterus roseus* have been seen and reported here.

Based on regular visits by ornithologists and birdwatchers of DelhiBird, an impressive bird checklist of 288 species has been uploaded on the avibase website (see link).

ENDANGERED	
Egyptian Vulture	*Neophron percnopterus*
VULNERABLE	
Greater Spotted Eagle	*Clanga clanga*
Eastern Imperial Eagle	*Aquila heliaca*
Indian Spotted Eagle	*Clanga hastata*
Sarus Crane	*Grus antigone*
NEAR THREATENED	
Oriental Darter	*Anhinga melanogaster*
Painted Stork	*Mycteria leucocephala*
Black-necked Stork	*Ephippiorhynchus asiaticus*
Black-headed Ibis	*Threskiornis melanocephalus*
Ferruginous Duck	*Aythya nyroca*
Pallid Harrier	*Circus macrourus*
Red-headed Falcon	*Falco chicquera*
Eurasian Curlew	*Numenius arquata*
Black-tailed Godwit	*Limosa limosa*
River Tern	*Sterna aurantia*
European Roller	*Coracias garrulus*
Alexandrine Parakeet	*Psittacula eupatria*

At its peak, the wintering Bar-headed Goose flock reaches 1,100, while the peak spring and autumn passage brings up to 5,000 ducks of 18 species and 10,000 waders of 36 species. The number of many species is much above the 1% threshold estimated by Wetlands International (2012). For example, the 1% biogeographic threshold of Bar-headed Goose is 560, while at Basai, almost double this number have been seen.

ASAD R. RAHMANI

Despite the fact that the Basai wetland is much disturbed by developmental activities, it still attracts thousands of waterbirds. This is an IBA in Danger due to rapid developmental activities

SURYA PRAKASH

Large birds such as Black-necked Stork (and Sarus Crane) are still seen in Basai, but the question is for how long. Most of the IBA is earmarked for the development of housing colonies

Cattle Egret *Bubulcus ibis* exceeds 1,000 individuals in certain months and breeds in Basai village. Flocks of Glossy Ibis *Plegadis falcinellus* and Purple Swamphen *Porphyrio porphyrio* regularly exceed 200 birds. Purple Swamphen, together with Purple Heron *Ardea purpurea*, Black Bittern *Dupetor flavicollis*, Cinnamon Bittern *Ixobrychus cinnamomeus*, and Yellow Bittern *I. sinensis* breed in the reedbeds. Unusual wintering species include Water Rail *Rallus aquaticus* and Great Bittern *Botaurus stellaris*, while Baillon's Crake *Porzana pusilla* and Moustached Warblers *Acrocephalus melanopogon* winter in numbers significant for NW India and may even breed. There is a winter roost of several thousand Yellow Wagtail *Motacilla flava* and Citrine Wagtail *M. citreola*. The Sind Sparrow *Passer pyrrhonotus* (a recent colonist of Haryana) was sighted in this roost in September (B. Harvey, *pers. comm*. 2003).

Basai wetlands easily meet A1 (Threatened species) and A4i (1% population threshold) criteria. Although it may not have ≥20,000 waterbirds (A4iii criteria) at a time, much more than 20,000 birds use this IBA in a year.

Earlier, White-rumped Vulture *Gyps bengalensis* and Red-headed Vulture *Sarcogyps calvus* were reported, but now they have been not seen for almost 10 years. However, Egyptian Vulture *Neophron percnopterus* is often seen. Similarly Eastern Imperial Eagle *Aquila heliaca* is not seen now, but it could have been missed. There are a few more species that have not been seen recently, but we are retaining them in the list as they are likely to occur.

Basai wetlands have also shown that with protection, even a highly polluted waterspread could attract thousands of waterbirds. This is particularly important as most of the natural shallow wetlands of the Gangetic Plain have been drained for cultivation or polluted, and we need to create new wetlands and restore the natural ones.

OTHER KEY FAUNA

A breeding herd of Nilgai *Boselaphus tragocamelus* is regularly seen; Indian Mongoose *Herpestes edwardsii* and Jungle Cat *Felis chaus* commonly occur. There are numerous water snakes and amphibians in the permanent swamps. Golden Jackal *Canis aureus*, Common Rat Snake *Ptyas mucosa*, Monitor Lizard *Varanus bengalensis*, and Checkered Keelback *Xenochrophis piscator* are seen regularly seen.

LAND USE

- Agriculture
- Water management

THREATS AND CONSERVATION ISSUES

- Closure of the water source
- Urbanization
- Poaching
- Sewage disposal
- Stray dogs
- Garbage and plastic disposal

SURYA PRAKASH

In many nesting sites of the Sarus Crane, tall buildings now stand

As the land belongs to the Haryana Urban Development Authority (HUDA), more than 50% of the marshland has been converted to housing colonies or other structures during the last 10 years. Looking at the pace of development and urbanization, this IBA has no future unless the remaining marshland is acquired by the Government to develop a bird sanctuary.

Current agricultural practices are beneficial as they create a variety of aquatic habitats and do not threaten the core wetland. Grazing is particularly beneficial, as it keeps the grass short and suitable for grazing geese and ducks. Most of the local villagers take pride of ownership in "their" birds and do not harm them. However, shooting and trapping at night are a problem in winter, though the police have apprehended some culprits. The site is not under any formal protection, although it comes under the jurisdiction of the Sultanpur National Park. Signboards in Hindi emphasize the penalties for shooting the birds. However, the site faces immense pressure due to the increasing demand for land in its vicinity.

KEY CONTRIBUTORS

Bill Harvey, Nikhil Devasar, Surya Prakash, members of Delhi Bird Club (Delhibirdpix@googlegroups.com and Delhibird@yahoogroups.com).

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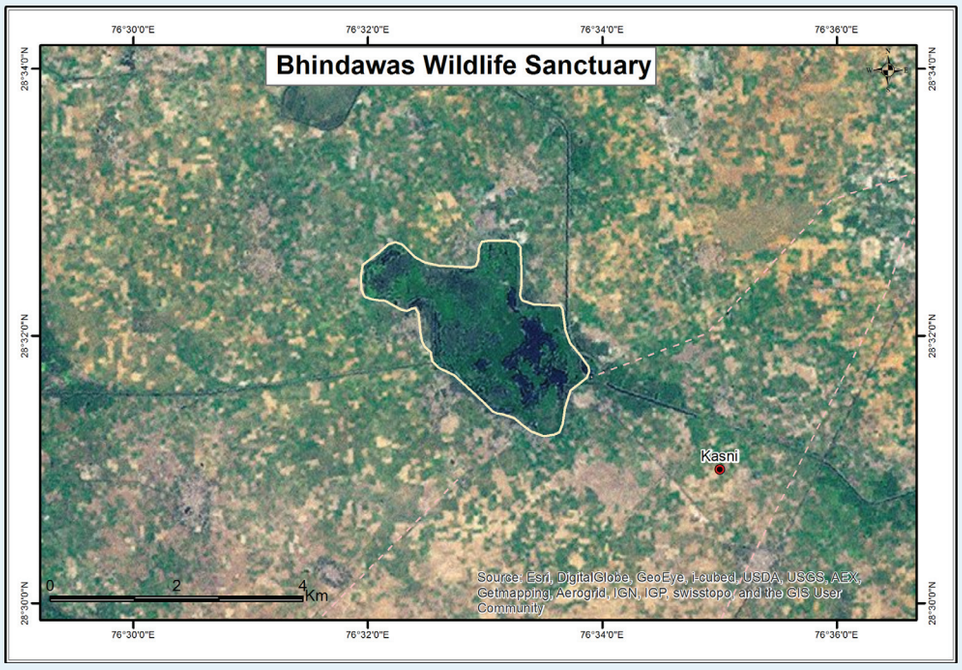
Link: http//www.avibase.bsc-eoc.org/checklist.jsp?region=innwhr01&list=ebird&lang=EN

BHINDAWAS WILDLIFE SANCTUARY

IBA Site Code	:	IN-HR-02	**Area**	:	412 ha
State	:	Haryana	**Altitude**	:	200 msl
District	:	Rohtak	**Rainfall**	:	800 mm
Coordinates	:	28° 37' 29" N, 76° 40' 60" E	**Temperature**	:	7 °C to 43 °C
			Biogeographic Zone	:	Semi-arid
Ownership	:	State	**Habitats**	:	Freshwater Swamp

IBA CRITERIA: A1 (Threatened species), A4i (≥1% of biogeographical population threshold), A4iii (≥20,000 waterbirds)

PROTECTION STATUS: Wildlife Sanctuary, established 1986.



GENERAL DESCRIPTION

Bhindawas Wildlife Sanctuary is the largest wetland in Haryana, spread over 412 ha, with a periphery of 12 km. An area of 513 ha has been declared as a sanctuary for the protection of waterfowl. The sanctuary is located in Rohtak district, about 80 km west of Delhi. The villages Kanawah, Nawada, Shajadpur, Chadwana, and Redhuwas surround the sanctuary, and village Bhindawas lies a little away from it. *Eucalyptus*, *Acacia*, *Azadirachta*, and *Ziziphus* are planted around the lake. Cormorants, egrets, and storks use them for roosting and nesting.

Bhindawas wetlands harbour all the vegetation found in a typical wetland of the Gangetic plains, including submerged *Hydrilla* and *Typha* on the fringes.

Islam & Rahmani (2008) recommended Bhindawas as a Ramsar Site as it qualifies for Ramsar Criteria 2 (wetland supports threatened ecological communities), Criteria 5 (wetland regularly supports 20,000 or more waterbirds), and Criteria 6 (wetland regularly supports 1% percent of the individuals in a population of one species or subspecies). It can be included in the Ramsar Wetland O category (permanent freshwater lake).

AVIFAUNA

A total of 265 species of birds have been recorded in the sanctuary (S.C. Sharma & B. Harvey, *pers. comm.* 2003). In good years, the lake has attracted over 30,000 birds on passage and in winter. Wildfowl are particularly significant and include, in recent years, large flocks of Bar-headed Goose *Anser indicus* (up to 830) and Greylag Goose *A. anser* (up to 1,320). Ducks such as Mallard *Anas platyrhynchos*, Red-crested Pochard *Rhodonessa rufina*, Ferruginous Duck *Aythya nyroca*, and Baer's Pochard *A. baeri* were recorded in 2001–2003. The Greater Spotted Eagle *Clanga*

clanga and Eastern Imperial Eagle *Aquila heliaca* winter regularly. Subject to water conditions, large flocks of Great White Pelican *Pelecanus onocrotalus*, Glossy Ibis *Plegadis falcinellus*, Black-headed Ibis *Threskiornis melanocephalus*, Eurasian Spoonbill *Platalea leucorodia*, and Greater Flamingo *Phoenicopterus roseus* can be seen. A female Smew *Mergellus albellus* was reported in October, 2014 by Jagat Varma (Surya Prakash, *pers. comm*. 2014).

Dusky Eagle-owl *Bubo coromandus* and Indian Eagle-owl *B. bengalensis* have become regular breeders in Bhindawas. Crested Serpent-eagle *Spilornis cheela*, a forest bird, is now regularly seen in the *Eucalyptus* grove that dominates the boundary of the wetland. Other forest birds seen are Indian Jungle Nightjar *Caprimulgus indicus*, Orange-headed Thrush *Zoothera citrina*, and Indian Pitta *Pitta brachyura*.

Equally important is the breeding colony of up to 5,000 pairs of herons, egrets, and cormorants, which include 20 pairs of Oriental Darter *Anhinga melanogaster* and up to 120 pairs of Great Cormorant *Phalacrocorax carbo*, roosting in *Eucalyptus* trees. Two pairs of Sarus Crane *Grus antigone* and a pair of Black-necked Stork *Ephippiorhynchus asiaticus* are resident, and the former have been breeding in recent years.

An important addition to the avifauna of this IBA is the Sind Sparrow *Passer pyrrhonotus* (Harvey & Sharma 2002) which has now colonized some parts of Haryana, particularly near the canals.

Besides fulfilling Criteria A1 and A4iii, this site also fulfils A4i (1% population threshold), as biogeographic populations of many species would be much more than the 1% population threshold determined by Wetlands International (2012). For example, Wetlands International (2012) estimates that the total population of Bar-headed Goose is between 52,000 and 60,000, and taking the average of these numbers, 1% population would be 560. In Bhindawas, more than 800 are seen. Similarly, the non-breeding population of Greylag Goose (subspecies *rubrirostris*), which breeds in Central Asia and winters in Central and South Asia, is about 25,000 and its 1% population is 250. Almost 5% of the population is seen in Bhindawas.

Beside the usual ducks and geese found in the Gangetic plains, Bhindawas is unique in that some species uncommon in India were also seen here. For instance, Greater White-fronted Goose *Anser albifrons*, a rare winter vagrant, was noted by S.C. Sharma & B. Harvey (*in litt*. 2002). They also reported the sighting of a Lesser White-fronted Goose *Anser erythropus* by Nirmal Ghosh. Possibly, these birds are found in many more wetlands but are overlooked.

The Demoiselle Crane *Grus virgo* is a rare passage migrant through Bhindawas, while the Common Crane *Grus grus* winters here in small numbers.

A species of global concern is Pallas's Fish-eagle *Haliaeetus leucoryphus* (BirdLife International 2001).

CRITICALLY ENDANGERED	
Baer's Pochard	*Aythya baeri*
White-rumped Vulture (old record)	*Gyps bengalensis*
Long-billed Vulture (old record)	*Gyps indicus*
Red-headed Vulture (old record)	*Aegypius calvus*
ENDANGERED	
Egyptian Vulture	*Neophron percnopterus*
Greater Adjutant (old record)	*Leptoptilos dubius*
Black-bellied Tern	*Sterna acuticauda*
VULNERABLE	
Dalmatian Pelican	*Pelecanus crispus*
Asian Woollyneck	*Ciconia episcopus*
Lesser Adjutant (old record)	*Leptoptilos javanicus*
Lesser White-fronted Goose	*Anser erythropus*
Pallas's Fish-eagle (old record)	*Haliaeetus leucoryphus*
Greater Spotted Eagle	*Clanga clanga*
Eastern Imperial Eagle	*Aquila heliaca*
Indian Spotted Eagle	*Clanga hastata*
Sarus Crane	*Grus antigone*
Stoliczka's Bushchat (old record)	*Saxicola macrorhynchus*
NEAR THREATENED	
Ferruginous Duck	*Aythya nyroca*
Oriental Darter	*Anhinga melanogaster*
Spot-billed Pelican (old record)	*Pelecanus philippensis*
Painted Stork	*Mycteria leucocephala*
Black-necked Stork	*Ephippiorhynchus asiaticus*
Black-headed Ibis	*Threskiornis melanocephalus*
Pallid Harrier (old record)	*Circus macrourus*
Red-necked Falcon	*Falco chicquera*
Asian Dowitcher (old record)	*Limnodromus semipalmatus*
Eurasian Curlew	*Numenius arquata*
Black-tailed Godwit	*Limosa limosa*
River Tern	*Sterna aurantia*
Alexandrine Parakeet	*Psittacula eupatria*
European Roller	*Coracias garrulus*

Formerly, it was a rare winter visitor to Bhindawas but there is no recent record (S.C. Sharma & B. Harvey, *in litt*. 2003). This species has disappeared from many wetlands, either as a breeding bird (e.g., Keoladeo NP in Rajasthan) or as winter migrant. In Haryana, it is reported only from one site in recent years, i.e. Sultanpur National Park, although historically it had been reported from Ambala, Hissar, and other areas (BirdLife International 2001, and reference therein). Similarly, the vulture species that used to be common 20 years ago are now rarely seen.

OTHER KEY FAUNA

As the wetland is surrounded by agricultural fields and villages, there is no large mammal of conservation concern. Blue Bull or Nilgai *Boselaphus tragocamelus*, Golden Jackal *Canis aureus*, Common Mongoose *Herpestes edwardsii*, and Black-naped Hare *Lepus nigricollis* are some of the mammals reported from this sanctuary.

SURYA PRAKASH

Bhindawas Wildlife Sanctuary qualifies on the basis of three Ramsar criteria. A total of 265 species of birds have been recorded from here, and it also attracts more than 30,000 birds on passage and in winter

LAND USE

- Water management
- Tourism and recreation

THREATS AND CONSERVATION ISSUES

- Natural disasters
- Invasive Water Hyacinth *Eicchornia crassipes*
- Disturbance by domestic livestock and dogs

The major problem in past years has been the unreliability of the water supply due to failure of the monsoon and excessive extraction for agriculture. The winters of 2001–2002 and 2002–2003 attracted rather low numbers of wetland birds for that reason. However, water was pumped in from the canal in early 2003, which substantially improved the habitat. The wetland was infested with Water Hyacinth *Eichhornia crassipes*, as a result of which the habitat was fast becoming degraded, but the dry conditions in 2002 also enabled clearance of much of this prolific weed. While grass-cutting for fodder probably improves the sward for geese in particular, too many cattle, horses, and buffalo compete with the wild Nilgai for grass in dry conditions and the graziers accompanying them also bring in dogs that can cause much disturbance. The surrounding area is heavily cultivated, grazed, and for the most part degraded. This results in siltation and pollution by pesticides from agricultural runoff.

Being close to Delhi and the towns of Haryana, Bhindawas could easily become a major ecotourist attraction. A walk or drive on the bund circling the sanctuary could become a major draw, if the road is repaired and watchtowers are strategically placed. However, the most important task is to see that water is supplied to the wetland from the nearby canal, especially during drought years. An interpretation centre has been built at the entrance. Much like Sultanpur National Park, which is now a major tourist attraction of Haryana, Bhindawas could be developed into an excellent waterfowl refuge.

KEY CONTRIBUTORS

Bill Harvey, Suresh C. Sharma, Vibhu Prakash, Surya Prakash, members of Delhi Bird Club.

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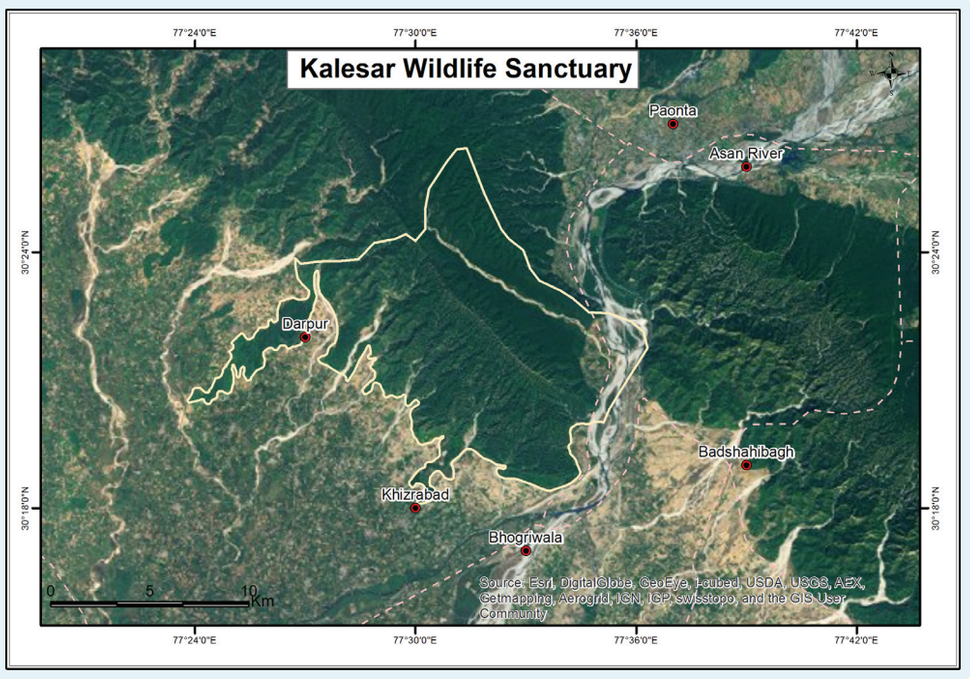
KALESAR WILDLIFE SANCTUARY

IN-HR-03

IBA Site Code	: IN-HR-03		**Area**	: 10,088 ha
State	: Haryana		**Altitude**	: 240–700 msl
District	: Kurukshetra		**Rainfall**	: 1,350 mm
Coordinates	: 30° 21' 54" N, 77° 32' 39" E		**Temperature**	: 5 °C to 45 °C
			Biogeographic Zone	: Semi-arid
Ownership	: State		**Habitats**	: Tropical Dry Deciduous Forest

IBA CRITERIA: A1 (Threatened species), A3 (Biome 11: Indo-Malayan Dry Zone; Biome 12: Indo-Gangetic Plains).

PROTECTION STATUS: Wildlife Sanctuary since December 1992; National Park declared on December 8, 2003.



GENERAL DESCRIPTION

Kalesar Wildlife Sanctuary, an important IBA of Haryana, was selected mainly for biome-restricted species, as Kalesar represents the last stand of Broadleaf Deciduous Forest in the state. Kalesar is the largest wildlife sanctuary in Haryana, covering 13,300 ha of the Lower Shivaliks in the Himalayan foothills. It is primarily Sal *Shorea robusta* forest of varying height and density, and open scrub with broad, stony storm-watercourses, which are usually dry. The Yamuna river flows to the east. The site can easily be reached from Delhi via Yamunanagar (200 km) or from Dehra Dun or Chandigarh via Paonta Sahib. The sanctuary is located at the junction of four states: Haryana, Himachal Pradesh, Uttarakhand, and Uttar Pradesh (Sharma 2002).

The topography varies from plains to hills up to an elevation of 700 m, interspersed with narrow valleys locally called *khol*s between the hills. These valleys are drained by seasonal rivulets, which are dry for most of the year. The sanctuary has a number of natural and man-made waterbodies. It is linked by a metalled road with some villages located along its southwestern border.

AVIFAUNA

A total of 304 bird species have been reported from this site (Sharma 2002),which fully earns its IBA status. As Kalesar is located at the foothills of the Himalaya, locally called *Bhabar*, it is at the junction of two biomes: Sino-Himalayan Subtropical Forests (Biome 8) and Indo-Gangetic Plains (Biome 12). But as Kalesar is relatively dry, many species of Indo-Malayan Tropical Dry Zone (Biome 11) are also present. As can be seen from the Table, Kalesar has more species of Biome 11 than of Biome 12. In winter, many species of Sino-Himalayan Temperate Forest (Biome 7) also descend to these forests, as passage migrants or to spend the

ASAD R. RAHMANI

Kalesar Wildlife Sanctuary is a good representative of western Bhabar tract of the Lower Shivaliks. In this extensive sanctuary of 13,300 ha, more than 300 bird species have been identified. Four species of ungulates, including Cheetal (above), are found in the sanctuary. Even tiger tracks have been sighted

winter. Some interesting birds reported by S. Sharma & B. Harvey (*pers. comm*. 2003) are Brown-fronted Woodpecker *Dendrocopos nanus*, Great Barbet *Megalaima viridis*, Great Pied Hornbill *Buceros bicornis*, Northern Goshawk *Accipiter gentilis*, Bronzed Drongo *Dicrurus aeneus*, Rufous-gorgeted Flycatcher *Ficedula strophiata*, Red-flanked Bush-robin *Tarsiger cyanurus*, Eurasian Treecreeper *Certhia familiaris*, Grey-sided Bush-warbler *Cettia brunnifrons*, Lemon-rumped Warbler *Phylloscopus chloronotus*, Green-crowned Warbler *Seicercus burkii*, Black-chinned Babbler *Stachyris pyrrhops*, Whiskered Yuhina *Yuhina flavicollis*, and Black-throated Accentor *Prunella atrogularis*.

Kalsi (1998) studied this site in 1993–1995, but his checklist contains only 161 species. There are a number of surprising omissions of species that are clearly common. There are also a few surprising inclusions (given the habitat), which have not been confirmed by later observers such as S.C. Sharma and Bill Harvey.

Kalesar's relative accessibility and its position at the junction of the Indo-Gangetic Plains and the Western Himalaya make it likely that other species will be added. Indeed, recently Ruby-cheeked Sunbird *Anthreptes*

CRITICALLY ENDANGERED	
White-rumped Vulture	*Gyps bengalensis*
Slender-billed Vulture	*Gyps tenuirostris*
Red-headed Vulture	*Sarcogyps calvus*
ENDANGERED	
Egyptian Vulture	*Neophron percnopterus*
VULNERABLE	
Pallas's Fish-eagle	*Haliaeetus leucoryphus*
Greater Spotted Eagle	*Clanga clanga*
Indian Spotted Eagle	*Clanga hastata*
Eastern Imperial Eagle	*Aquila heliaca*
Kashmir Flycatcher	*Ficedula subrubra*
NEAR THREATENED	
Painted Stork	*Mycteria leucocephala*
Pallid Harrier	*Circus macrourus*
River Lapwing	*Vanellus duvaucelii*
Black-tailed Godwit	*Limosa limosa*
Eurasian Curlew	*Numenius arquata*
River Tern	*Sterna aurantia*
Alexandrine Parakeet	*Psittacula eupatria*
European Roller	*Coracias garrulus*
Great Pied Hornbill	*Buceros bicornis*

BIOME 11: INDO-MALAYAN DRY ZONE	
Plum-headed Parakeet	*Psittacula cynocephala*
Common Indian Nightjar	*Caprimulgus asiaticus*
Indian Grey Hornbill	*Ocyceros birostris*
Brown-headed Barbet	*Megalaima zeylanica*
Yellow-fronted Pied Woodpecker	*Dendrocopos mahrattensis*
Black-rumped Flameback	*Dinopium benghalense*
Red-winged Bush-lark	*Mirafra erythroptera*
Indian Short-toed Lark	*Calandrella raytal*
Common Woodshrike	*Tephrodornis pondicerianus*
Indian Robin	*Saxicoloides fulicata*
Large Grey Babbler	*Turdoides malcolmi*
Jungle Babbler	*Turdoides striatus*
Rufous-fronted Prinia	*Prinia buchanani*
Jungle Prinia	*Prinia sylvatica*
Ashy Prinia	*Prinia socialis*
White-browed Fantail	*Rhipidura aureola*
Brahminy Starling	*Sturnus pagodarum*
White-bellied Drongo	*Dicrurus caerulescens*
Ashy Woodswallow	*Artamus fuscus*
BIOME 12: INDO-GANGETIC PLAINS	
Striated Babbler	*Turdoides earlei*
BIOME 13: SAHARO-SINDIAN DESERT	
Sykes's Nightjar	*Caprimulgus mahrattensis*

singalensis and Snowy-browed Flycatcher *Ficedula hyperythra* have been found, suggesting range expansion westwards (Sharma 2002). Kashmir Flycatcher *Ficedula subrubra* has been reported by delhibird.net. It was probably seen on migration.

Kalesar has some globally Threatened species as listed by BirdLife International (2001). These include Pallas's Fish-eagle *Haliaeetus leucoryphus* and Greater Spotted Eagle *Clanga clanga* (Sharma 2002). It also has at least nine Near Threatened species.

A pure bred population of wild Red Junglefowl *Gallus gallus* is found in Kalesar, but this needs confirmation. Kaleej Pheasant *Lophura leucomelanos* is quite common.

OTHER KEY FAUNA

Kalesar forest harbours Leopard *Panthera pardus*, Sloth Bear *Melursus ursinus*, and Striped Hyaena *Hyaena hyaena* among the large predators. Recently, pugmarks of Tiger *Panthera tigris* have been seen after a gap of several decades. Cheetal or Spotted Deer *Axis axis*, Sambar *Rucervus unicolor*, and Barking Deer *Muntiacus muntjak* are the common ungulates. Plains Gray Langur *Semnopithecus entellus* is also found.

LAND USE

- Tourism and recreation

THREATS AND CONSERVATION ISSUES

- Invasion by exotic species
- Burning of vegetation
- Firewood collection
- Livestock grazing

Small villages are located along the southwestern border of the sanctuary. The primary livelihoods of the people in these villages are animal husbandry and agriculture. Forest fires occur occasionally. Firewood collection is a problem. Invasion of the exotic weed *Lantana camara* has occurred along the fire lines and could spread to the interior of the forest.

Rodgers & Panwar (1988) had suggested declaring 10,000 ha of core area as a national park to further safeguard the dry deciduous forest and animal communities.

KEY CONTRIBUTORS

Suresh Sharma, Bill Harvey, Ram Jakati, Rajiv Kalsi, Nikhil Devasar.

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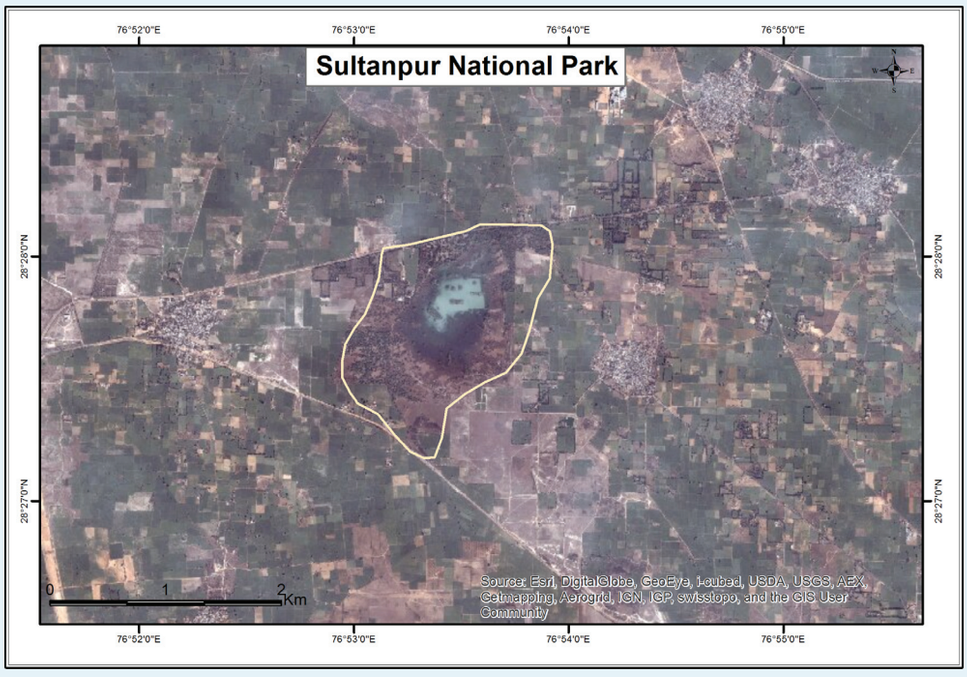
Link: http://avibase.bsc-eoc.org/checklist.jsp?region=INnwhr05&list=howardmoore

SULTANPUR NATIONAL PARK

IBA Site Code	:	IN-HR-04	**Area**	:	143 ha
State	:	Haryana	**Altitude**	:	*c.* 220 msl
District	:	Gurgaon	**Rainfall**	:	800 mm
Coordinates	:	28º 28' 00" N, 76º 55' 00"E	**Temperature**	:	7 ºC to 43 ºC
Ownership	:	State	**Biogeographic Zone**	:	Semi-arid
			Habitats	:	Grassland, Marshes

IBA CRITERIA: A1 (Threatened species), A4i (≥1% of biogeographical population), A4iii (≥20,000 waterbirds)

PROTECTION STATUS: National Park, established July, 1991.



GENERAL DESCRIPTION

The Sultanpur Bird Sanctuary and National Park in Gurgaon district of Haryana occupy a total area of 143 ha, including a core area of 143 ha (National Park). We have considered the National Park as an IBA. It is located just off the Gurgaon-Farrukhnagar road, 45 km southwest of Delhi. Sultanpur Lake forms the core area. This shallow lake is fed by the overflow from neighbouring canals and agricultural fields, and replenished by saline ground water. The park has seasonal aquatic vegetation and open grasslands, dotted with artificial islands planted with *Acacia nilotica*. The park experiences extreme weather conditions. Sultanpur NP now has a 5' perimeter wall topped with 3' of barbed wire. The cultivated areas are outside the park, and the wall also prevents any encroachments.

The bird sanctuary contains cultivated fields and pastures. There are small areas of *Typha* and *Phragmites* around the lake, and some emergent vegetation within the lake, particularly in the core area. Extensive marshes covered with sedge, to the north of the main lake, form a mosaic with areas of dry grassland. The natural vegetation of the region is semi-arid scrub, but 78% of the buffer zone is under cultivation.

The Ministry of Environment and Forests, Government of India, New Delhi vide their Notification dated 27-01-2010 declared the area of 5 km around the park as an Eco-sensitive Zone but it has now been reduced to just 300 m.

Islam & Rahmani (2008) recommended Sultanpur National Park as a Ramsar Site as it qualifies for Ramsar Criteria 1 (wetland is a representative example of a biogeographic area), Criteria 2 (wetland supports threatened ecological communities), Criteria 5 (wetland regularly supports 20,000 or more waterbirds), and Criteria 6 (wetland regularly supports 1% of the individuals in a population of

one species or subspecies). It can be categorized as Ramsar Wetland O type (permanent freshwater lake).

AVIFAUNA

More than 320 species of birds have been recorded from the park (Harvey 2003), which is a very important wintering ground for waterfowl. In years of adequate rainfall, it has supported over 20,000 individuals of migratory birds, but in the period 2000–2003, the total never exceeded 3,000.

Sultanpur is a seasonal wetland and gets water from rain and the Gurgaon Water Channel. The transient nature of the ecosystems at Sultanpur probably explains the number of "old" records as much as real scarcity of species. Water levels are a major factor and there have been lean years recently. In 2002, regular pumping restored the *jheel* to its former levels. When water is inadequate, there is much interchange of birds with the nearby and more reliable wetlands at Basai (8 km east) and Bhindawas (30 km west) (both IBAs), particularly of raptors and larger waterbirds. Other factors for the decline of waterfowl and some other species include the growth in trees to the exclusion of scrub, the thick tall growth of grass when water is shallow or absent, and encroachment by agricultural fields (Harvey 2003). *Prosopis chilensis* was removed from large parts of the park as it was encroaching the wetland.

This IBA has a significant waterbird breeding colony, including Painted Stork *Mycteria leucocephala* (50 pairs) (only four pairs during 2014–2015), Oriental Darter *Anhinga melanogaster* (eight pairs), Black-headed Ibis *Threskiornis melanocephalus* (50 pairs), and a pair of Sarus Crane *Grus antigone* which nests every year. The adjoining dry flats are important wintering grounds for several lark and wheatear species, while there are breeding populations of Indian Courser *Cursorius coromandelicus*, Yellow-wattled Lapwing *Vanellus malabaricus*, and Chestnut-bellied Sandgrouse *Pterocles exustus*. Some unusual visitors are White-browed Bushchat *Saxicola macrorhynchus* (in 2001), Cream-coloured Courser *Cursorius cursor* (in 2002), and Lesser Kestrel *Falco naumanni* (in 2003) (Harvey 2003).

The park also qualifies for A4i criteria as it regularly holds more than 1% of the biogeographic population of some species. For example, Wetlands International (2012) estimates that the non-breeding population of Greylag Goose (subspecies *rubrirostris*), which breeds in Central Asia and winters in Central and South Asia, is about 25,000. Therefore, its 1% would be 250. Sometimes up to 300 are seen in Sultanpur.

Urfi *et al*. (2005) reported nesting of Asian Openbill *Anastomus oscitans* for the first time in 2003; they found four nests. Next year, 10 nests were found. They have kept records of other colonial nesting birds. For example, they found 96 nests of Painted Stork in 2003, and 57 nests in 2004. However, only four pairs nested during 2014 (Vibhu Prakash, *pers. comm*. 2014).

CRITICALLY ENDANGERED	
White-rumped Vulture	*Gyps bengalensis*
Long-billed Vulture	*Gyps indicus*
Red-headed Vulture	*Sarcogyps calvus*
Sociable Lapwing	*Vanellus gregarius*
ENDANGERED	
Egyptian Vulture	*Neophron percnopterus*
Saker Falcon	*Falco cherrug*
Black-bellied Tern	*Sterna acuticauda*
VULNERABLE	
Lesser White-fronted Goose	*Anser erythropus*
Dalmatian Pelican	*Pelecanus crispus*
Lesser Adjutant	*Leptoptilos javanicus*
Greater Spotted Eagle	*Clanga clanga*
Eastern Imperial Eagle	*Aquila heliaca*
Indian Spotted Eagle	*Clanga hastata*
Sarus Crane	*Grus antigone*
White-browed Bushchat	*Saxicola macrorhynchus*
Finn's Weaver (old record)	*Ploceus megarhynchus*
NEAR THREATENED	
Falcated Duck	*Anas falcata*
Ferruginous Duck	*Aythya nyroca*
Spot-billed Pelican	*Pelecanus philippensis*
Oriental Darter	*Anhinga melanogaster*
Painted Stork	*Mycteria leucocephala*
Black-necked Stork	*Ephippiorhynchus asiaticus*
Black-headed Ibis	*Threskiornis melanocephalus*
Lesser Flamingo	*Phoeniconaias minor*
Lesser Fish-eagle	*Ichthyophaga humilis*
Laggar Falcon	*Falco jugger*
Red-headed Falcon	*Falco chicquera*
Pallid Harrier	*Circus macrourus*
Great Thick-knee	*Esacus recurvirostris*
Black-tailed Godwit	*Limosa limosa*
River Tern	*Sterna aurantia*
Alexandrine Parakeet	*Psittacula eupatria*
European Roller	*Coracias garrulus*

Sharma *et al*. (2013) reported Long-billed Dowitcher *Limnodromus scolopaceus* from Sultanpur National Park. According to Rasmussen & Anderton (2012), it is a vagrant species in India.

There are no recent records of the sighting of the Critically Endangered White-rumped, Long-billed, and Red-headed Vultures from within the park. Egyptian Vulture *Neophron percnopterus* is sometimes seen outside it.

OTHER KEY FAUNA

There is no large wild mammal of conservation concern in this national park. Nilgai *Boselaphus tragocamelus* is the major wild ungulate. Golden Jackal *Canis aureus* is still common, although the park is now surrounded by rapidly growing urban colonies. How long they would survive is only a question of time. No information is available on reptile and amphibian fauna.

SURYA PRAKASH

Sultanpur is a potential Ramsar site as it qualifies on the basis of four Ramsar Criteria including Criteria 5 (wetland regularly supports 20,000 or more waterbirds). It is a popular birding area for birdwatchers of Delhi, Gurgaon, and other cities

LAND USE

- Tourism and recreation
- Nature conservation and research
- Livestock grazing and grass-cutting
- Agriculture throughout buffer zone

THREATS AND CONSERVATION ISSUES

- Agricultural intensification and expansion
- Industrialization/Urbanization in the surrounding areas

The climate and soil in the environs of Sultanpur Jheel are not conducive to the existence of permanent waterbodies. A few years ago, due to low rainfall, only a few pools used to remain by mid winter and the *jheel* was predominantly dry. Land use practices in the catchment areas have impeded the natural flow of water into the lake. Pumping in ground water has been undertaken since 2001 to maintain waterfowl habitat during the winter. However, due to urbanization and industrial development in the surrounding areas, water, an increasingly scarce commodity, has been diverted away from the park. In recent years (2000 onwards), water is taken into the park through the Gurgaon water channel, which makes sure that water remains in the wetland.

While the core area of the lake (143 ha) is under the jurisdiction of the Haryana Forest Department, the buffer zone is under private or *gram panchayat* (village council) control. These areas are cultivated, heavily grazed, and for the most part heavily degraded. The buffer zone has 17 villages: grazing and collection of aquatic vegetation for thatching and fodder is rampant. Siltation due to soil erosion in the catchment area and windblown dust is on the increase. Sand mining for the nearby brick and quicklime industries is also a major concern.

KEY CONTRIBUTORS

Nikhil Devasar, Bill Harvey, Suresh Sharma, Vibhu Prakash, members of Delhi Bird Club.

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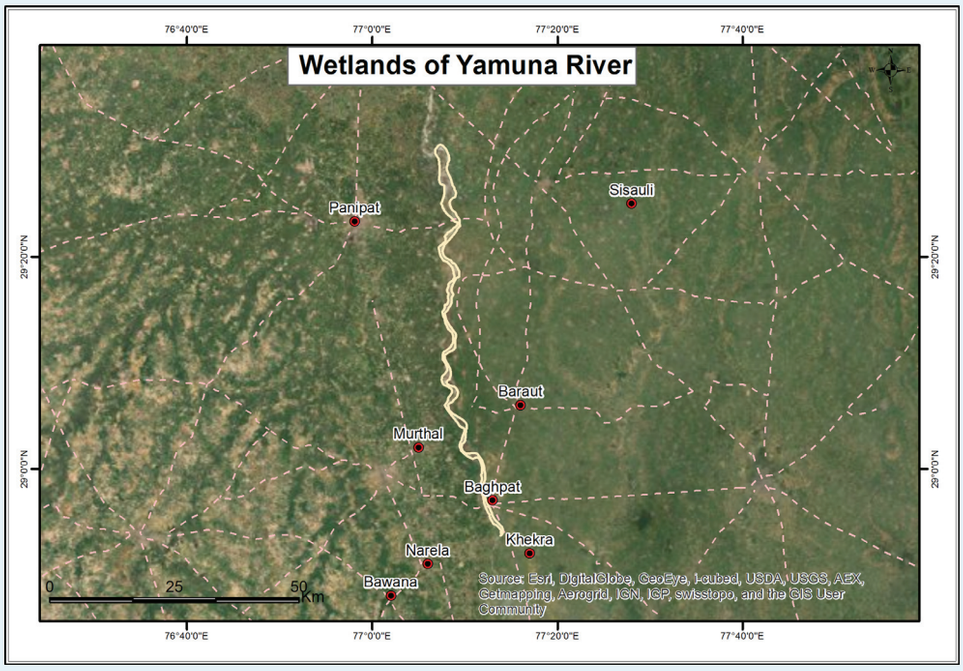
WETLANDS OF YAMUNA RIVER

IN-HR-05

IBA Site Code	:	IN-HR-05	**Area**	:	20,000 ha
State	:	Haryana	**Altitude**	:	210 msl
District	:	Yamuna Nagar	**Rainfall**	:	635 mm
Coordinates	:	28° 52' 08" N, 77° 10' 47" E	**Temperature**	:	16 °C to 32 °C
			Biogeographic Zone	:	Semi-arid
Ownership	:	State	**Habitat**	:	Freshwater Swamp

IBA CRITERIA: A4iii (≥20,000 waterbirds). Data Deficient

PROTECTION STATUS: Not officially protected.



GENERAL DESCRIPTION

These narrow floodplains lie along a 35 km stretch of the Yamuna river in the environs of Delhi. Several dams and barrages provide relatively large areas of open water. Sand banks and mudflats are exposed when the water levels are low. Small marshy areas are present in a mosaic of arable land, pasture, and urban development. There are undoubtedly other stretches of the Yamuna river that are as rich in wildlife, but no information is available on these. This site is being treated as Data Deficient.

AVIFAUNA

These wetlands are a very important feeding, roosting, and breeding area for a variety of both resident and migratory waterfowl. Bill Harvey (*pers. comm.* 2003) has reported 236 species of birds from this area. Over 20,000 birds have been reported regularly from these wetlands (Bill Harvey, *pers. comm.* 2003) and the site qualifies for the A4iii (congregatory) criteria.

LAND USE

- Agriculture
- Water management

THREATS AND CONSERVATION ISSUES

- Agricultural intensification and expansion
- Pollution
- Shooting/trapping of birds

There are large stretches of water overrun by Water Hyacinth *Eichhornia crassipes*, particularly near the reedbeds and barrages. Pollution from domestic and industrial sources is a growing problem. Some illegal shooting and netting of waterfowl occurs occasionally.

KEY CONTRIBUTORS

Bill Harvey, Rajiv Kalsi, Nikhil Devasar, Suresh C. Sharma.

SURYA PRAKASH

Floodplains wetlands all along the river attract a very large number of waterbirds, totalling several thousands. More than 230 species have been noted, including many grassland species which find habitat on the extensive grass beds

SURYA PRAKASH

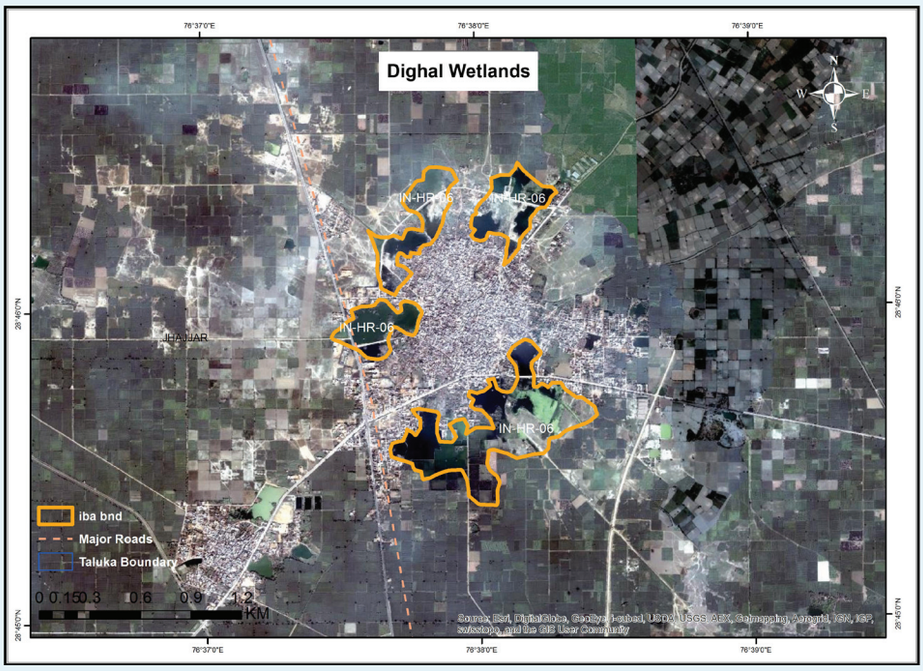
DIGHAL WETLANDS

IN-HR-06

IBA Site Code	: IN-HR-06	**Area**	: N/A
Administrative Region (State)	: Haryana	**Altitude**	: 217 msl
District	: Jhajjar	**Rainfall**	: 444 mm
Coordinates	: 28° 45' 0" N, 76° 37' 0" E	**Temperature**	: 6 ºC to 45 ºC
Ownership	: Private, Village	**Biogeographic Zone**	: Semi-arid
		Habitats	: Freshwater marshy wetland

IBA CRITERIA: A1 (Threatened species), A4i (≥1% of biogeographical population), A4iii (≥ 20,000 waterbirds)

PROTECTION STATUS: Not officially protected.



GENERAL DESCRIPTION

Dighal is a village in Jhajjar district, located *c.* 70 km northwest of New Delhi. Near this village is a large freshwater marshy wetland that attracts thousands of migratory birds. The whole area is under intensive agriculture, but many small to large waterbodies near the village survive, making the site attractive to birds. Hunting is uncommon, and as a result, despite the human-dominated landscape, many bird species survive, some in very good numbers.

AVIFAUNA

Surya Prakash & Rakesh Ahlawat (*pers. comm*. 2014), IBCN members, have prepared a checklist of 263 species, including passage migrants, winter and summer migrants, and resident birds. Some noteworthy species are Marbled Duck *Marmaronetta angustirostris*, Baikal Teal *Anas formosa*, Greater White-fronted Goose *Anser albifrons*, Long-billed Vulture *Gyps indicus*, White-rumped Vulture *G. bengalensis*, Egyptian Vulture *Neophron percnopterus*, Greater Spotted Eagle *Clanga clanga*, Indian Spotted Eagle *Clanga hastata*, and Black-necked Stork *Ephippiorhynchus asiaticus*.

Other species, though not globally Threatened, but worth mentioning are Black Stork *Ciconia nigra*, Eurasian Bittern *Botaurus stellaris*, Dusky Eagle-owl *Bubo coromandus*, and Indian Eagle-owl *Bubu bubo*. Besides the Spanish Sparrow *Passer hispaniolensis* that is seen in winter along with flocks of House Sparrow *Passer domesticus*, Sind Sparrow *Passer pyrrhonotus* has also made its appearance and is spreading.

A few pairs of Sarus Crane *Grus antigone* are seen in Dighal and the surrounding wetlands and crop fields. Flocks of Greater Flamingo *Phoenicopterus roseus* appear occasionally and stay for a few weeks. Steppe Eagle *Aquila nipalensis* is seen, particularly around village garbage dumps.

SURYA PRAKASH

Near Dighal village, a large freshwater wetland attracts thousands of migratory birds. Despite the human-dominated landscape, birds and animals are generally not molested, which is why birds and Nilgai are seen in large numbers.
IBCN members Surya Prakash and Rakesh Ahlawat have identified 263 species of birds here

SURYA PRAKASH

In Dighal wetland, some uncommon species such as Marbled Duck *Marmaronetta angustirostris* (above) and Long-billed Dowitcher *Limonodromus semipalmatus* (inset) have been reported by IBCN members

CRITICALLY ENDANGERED	
White-rumped Vulture	*Gyps bengalensis*
Long-billed Vulture	*Gyps indicus*
ENDANGERED	
Egyptian Vulture	*Neophron percnopterus*
VULNERABLE	
Marbled Duck	*Marmaronetta angustirostris*
Sarus Crane	*Grus antigone*
Asian Woollyneck	*Ciconia episcopus*
Indian Spotted Eagle	*Clanga hastata*
Greater Spotted Eagle	*Clanga clanga*
NEAR THREATENED	
Oriental Darter	*Anhinga melanogaster*
Painted Stork	*Mycteria leucocephala*
Black-necked Stork	*Ephippiorhynchus asiaticus*
Black-headed Ibis	*Threskiornis melanocephalus*
Red-headed Falcon	*Falco chicquera*
Pallid Harrier	*Circus macrourus*
Black-tailed Godwit	*Limosa limosa*
Eurasian Curlew	*Numenius arquata*
Alexandrine Parakeet	*Psittacula eupatria*
European Roller	*Coracias garrulus*

The area has become extremely popular for birdwatchers. Its marshland habitat with emergent reeds is home to many skulking species, making the area very attractive to serious birders. The drying up land attracts thousands of waders, with the occasional appearance of Western Reef Heron *Egretta gularis* and Ruddy Turnstone *Arenaria interpres* – two species unlikely to be seen in inland fresh water.

OTHER KEY FAUNA

As it is mainly an agricultural area, forest animals are absent except for Nilgai *Boselaphus tragocamelus*, Golden Jackal *Canis aureus*, Indian Crested Porcupine *Hystrix indica*, Black-naped Hare *Lepus nigricollis*, Monitor Lizard *Varanus bengalensis*, and various species of snakes such as Checkered Keelback *Xenochrophis piscator*, Rat Snake *Ptyas mucosa*, and Kukri *Oligodon* sp.

LAND USE

- Mainly agriculture

THREATS AND CONSERVATION ISSUES

- Rapid urbanization
- Hunting

KEY CONTRIBUTORS

Surya Prakash, Rakesh Ahlawat.